

United States Patent [19]**Marshall et al.**[11] **Patent Number:** **4,648,956**[45] **Date of Patent:** **Mar. 10, 1987**[54] **ELECTRODE CONFIGURATIONS FOR AN ELECTROPHORETIC DISPLAY DEVICE**[75] Inventors: **Thomas Marshall**, Flushing; **Edward H. Stupp**, Spring Valley, both of N.Y.[73] Assignee: **North American Philips Corporation**, New York, N.Y.[21] Appl. No.: **688,097**[22] Filed: **Dec. 31, 1984**[51] Int. Cl.⁴ **B01K 5/00; G02 1/40**[52] U.S. Cl. **204/299 EC; 204/299 R; 350/362; 430/32; 430/35; 430/36**[58] Field of Search **204/299 R, 299 EC, 299 PE, 204/181 PE; 430/32, 35, 36; 350/362**[56] **References Cited****U.S. PATENT DOCUMENTS**Re. 28,360 3/1975 Evans et al. 204/299 R
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4,522,472 6/1985 Liebert et al. 350/362*Primary Examiner*—Arthur P. Demers*Attorney, Agent, or Firm*—Paul R. Miller[57] **ABSTRACT**

An electrophoretic display device is set forth having various electrode schemes in order to modulate transmission of light through the device. The electrophoretic particles of the suspension form an imaging structure relating to an array of small unit cells or pixels which are turned on or off by appropriate electrical signals. Accordingly, the pigment particles totally cover transparent electrodes, which condition can be changed by applying the appropriate electric field to the opposite electrode. By this structure, various alphanumeric displays can be constructed.

11 Claims, 4 Drawing Figures